

portion of the lot. With the exception of works of reference (encyclopedias, etc.), and possibly those on general natural history, the entire library is to be arranged in tiers of steel stacks. At present five such tiers are provided for, extending from the ground to near the roof of the rear section of the new building, thus securing increased room which is sadly needed and, it is hoped, safety from fire.

Mrs. James Woods, of Camden, Alabama, has thoughtfully presented to the Academy a collection of seventeen letters written by Isaac Lea, Timothy A. Conrad, Samuel G. Morton, Benjamin Silliman, William Hall and John Finch, from 1829 to 1835, to Judge Charles Tait, of Claiborne, Monroe Co., Alabama, who was the first to develop, with his correspondents, the Claiborne beds, of so much interest in American geology as furnishing the most noted deposits of Eocene shells. The letters contain several items of personal interest and indicate especially the zeal and enthusiasm of a former President of the Academy, Isaac Lea.

Acknowledgment is due William J. Fox, for his efficient assistance to the Librarian and the Publication Committee.

EDWARD J. NOLAN,
Librarian.

REPORT OF THE CURATORS.

The erection of the new library, stack, lecture hall and study rooms and the alteration of the old building were begun early in the spring. At the present time the alterations are practically completed, while the new building is nearly ready for the roof.

A handsome entrance hall has been constructed at the Logan Square front, which has been carried through the old lecture room, making a direct communication with the first floor of the Museum. The stairways which formerly connected the floors of the Museum have been removed to the vestibule, and all the rooms have been shut off both from the vestibule and from each other by regulation fire-doors, which greatly increase the safety of the collections.

A fire-proof room has been constructed in the lower part of the old lecture hall, which will be fitted up for the accommodation of the alcoholic collections, where they will be shut off from all other parts of the Museum.

Heat and gas pipes and electric light wires have been installed in the vestibules and entrance hall and a new boiler placed in the engine house.

During the early part of the year much time was spent in moving cases and rearranging exhibits preparatory to the alterations, and since July 5 the Museum has been closed to the public, the cases being covered up and many specimens removed for safety.

During the past month the cases on the first and second floors have been rearranged preparatory to reopening the Museum, and the work of reconstructing some of the bird cases is well under way.

Many shifts of position among the exhibition cases have been made necessary by the changes in doors and stairways and the walling off of the vestibule.

The final cleansing of the halls will be undertaken as soon as the painting of the walls and fire-proofing of the columns are completed.

Early in the year the work of labelling the mounted birds was completed with the exception of the song birds, and the exhibition collection of Mollusca was entirely rearranged. Many of the articulated skeletons have also been cleansed and remounted.

Owing to the condition of the Museum, however, most of the work of the staff has been devoted to the study collections.

The old rooms of the Ornithological department having been largely torn away, the entire series of bird and mammal skins has been removed to the top floor of the Museum, where far more desirable quarters have been provided.

Thirty-eight moth-proof metal cases and ten large white pine cabinets have been provided for plants, insects and birds, as well as 200 standard insect boxes.

Mr. Clarence B. Moore has presented another plate glass and mahogany case for the valuable additions to his collection of Indian antiquities obtained in the Southern States and Arkansas. Dr. Pilsbry and Mr. Rehn each visited North Carolina for a few weeks during the year and made collections respectively of Mollusks and Orthoptera.

Through the liberality of Mrs. Charles Schäffer, Mr. Stewardson Brown was enabled to spend the entire summer in little known parts of British Columbia, where he secured a valuable collection of plants largely new to the herbarium. He also visited Bermuda in February, with the aid of the Esther Hermann Research Fund of the New York Academy of Sciences, where another important collection was made.

Dr. J. P. Moore spent the summer at Woods Hole, where some marine material was collected and numerous local collecting trips were made by other members of the Museum staff.

Among the important accessions of the year may be mentioned the

Henry Skinner collection of Lepidoptera, the Vanderpol collection of East Indian birds, the Quadras collection of Philippine Mollusks, all obtained by purchase. Also the Herbst collection of Fungi, presented by Mr. Herbst's estate, and a valuable collection of Central American Coleoptera, presented by Mr. F. D. Godman. A number of interesting mammals were received from the Zoological Society of Philadelphia, including the fine Indian elephant "Bolivar," nearly ten feet in height, which is now being mounted in the taxidermical department.

Details of work in several departments will be found in the special reports, in addition to which Mr. H. W. Fowler has continued his care of the fishes, and Dr. J. P. Moore of the Annelids, while Miss H. N. Wardle has been engaged upon the arrangement and cataloguing of the ethnological collections.

The Curators are also indebted to Mr. S. S. Van Pelt for valuable assistance in the herbarium, and to Dr. P. P. Calvert and Mr. E. T. Cresson, Jr., in the Entomological department.

Many specialists have made use of the collections during the year and specimens have been loaned to Dr. C. Hart Merriam, Dr. Charles H. Eigenmann, Samuel N. Rhoads, W. D. W. Miller and Robert Ridgway.

An idea of the extent of the Academy's collections at the present time may be gained from the following summary, although some of the figures are necessarily approximate.

Of Mammals there are 12,416 specimens, of which 2,500 are osteological or alcoholic preparations, 500 are mounted and the rest skins with skulls prepared separately. The more important individual collections are the S. N. Rhoads collection of North American Mammals and the H. H. Smith collection from southern Brazil.

The Birds number 59,579 specimens, of which about 9,000 are mounted and 1,075 are osteological preparations. There are also about 2,500 nests and sets of eggs. The notable collections comprise that of Massena, Duke of Rivoli; the John Gould Australian collection; the Boys collection of Indian birds; Canon Tristram's collection; the Josiah Hoopes collection of North American birds; the Harrison and Miller collection from Sumatra; the George L. Harrison collection from British East Africa (on deposit) and the Delaware Valley Ornithological Club local collection. There are about 600 types, mainly of Cassin, Gould, Townsend, Gambel and Audubon.

The Reptiles and Batrachians amount to 18,000 specimens, the great majority being alcoholic; they comprise among others the E. D. Cope collection and the Arthur Erwin Brown collection and include many types, mainly of Cope and Hallowell.

The collection of Fishes consists of about 40,000 specimens, and contains the historic Bonaparte collection, the Cope collection and also those of Hauxwell, Orton, H. H. Smith, Harrison and Hiller, Rijgersma and others. There are many types of Cope, Abbott and Fowler, as well as cotypes of Girard's Mexican boundary fishes.

The Insects number about 369,000 pinned specimens divided as follows:

	<i>North American</i>		<i>Exotic</i>		<i>Types.</i>
	<i>Species.</i>	<i>Specimens.</i>	<i>Species.</i>	<i>Specimens.</i>	
Hymenoptera	10,000	50,000	1,000	4,000	3,000
Lepidoptera	3,645	17,000	3,000	14,000	500
Neuroptera	300	2,400	1,200	400	100
Orthoptera	684	17,000	1,038	10,000	150
Diptera	1,300	10,000	100	150	121
Hemiptera	700	3,500	200	600	50
Coleoptera	10,000	140,000	5,000	10,000	2,000

The most notable special collections are the Horn and Wilt collections of Coleoptera; the Martindale and Skinner collections of Lepidoptera; the Calvert collection of Neuroptera (on deposit); the Osten-saken cotypes of Diptera; the Cresson and Bassett collections of Hymenoptera and the Henry C. McCook collection of Insect Architecture.

The collection of Mollusks numbers over 100,000 trays and more than 1,500,000 specimens. Of this number 40,000 trays have been catalogued and numbered as new accessions since 1893. The older collection consists of the original collection of the Academy, begun about 1817 by Thomas Say; the Robert Swift collection of West Indian shells, about 10,000 specimens; the A. D. Brown collection of land shells, bequeathed to the Academy in 1887, 5,400 trays. About 10,000 trays of these collections have been catalogued and numbered.

The alcoholic collection of Mollusks consists of about 6,000 lots, probably over 75,000 individual specimens. The number of types of Say, Conrad, Tryon and others is not known, but since the year 1901, 925 types have been described from the new material received.

Other invertebrates number about 11,500 specimens, of which 4,000 are Crustacea and 2,800 worms. The most important collections are the Guerin collection of Crustacea, the H. C. Chapman collection of Marine Invertebrates from Naples and the Edward Potts collection of fresh-water sponges.

The Herbarium contains about 584,000 specimens of flowering plants and ferns, comprising among others the collections of Muhlenberg

(on deposit), Pursh, de Schweinitz, Nuttall, Short, and Charles E. Smith. The Fungi, Mosses, Lichens and Algæ number about 50,000 specimens and include the collections of Sullivant, de Schweinitz, Eckfeldt, Ashmead, Martin, Ellis and Everhart, Herbst and Rex. Both departments of the Herbarium are rich in types.

There is also a local Herbarium presented by the Philadelphia Botanical Club, which contains about 20,000 specimens.

The Palæontological collections comprise some 5,000 specimens of Vertebrates and 45,000 Invertebrates, of which 3,000 belong to the collection of the Pennsylvania Geological Survey (on deposit) and 7,500 to the Isaac Lea collection; also 1,500 fossil plants. There are many types of Leidy and Cope among the vertebrates and of Lea, Conrad, Gabb and Heilprin among the invertebrates.

The general collection of minerals consists of 8,500 specimens, while the William S. Vaux collection contains about 7,500 additional. Of rock specimens there are over 10,000 in the Pennsylvania Geological Survey collection and about 3,000 additional.

The general Archæological and Ethnological department contains about 14,000 specimens, including the Samuel G. Morton collection of human crania; the Peale Hawaiian collection, the Haldeman American Indian collection and the Poinsett Mexican collection (on deposit).

The Clarence B. Moore collection of Indian antiquities from mounds of the Southern States includes some 5,000 specimens, the basis of Mr. Moore's papers in the JOURNAL of the Academy. The William S. Vaux collection contains 2,500 specimens, largely from North America and Europe.

SUMMARY.

Mammals,	12,416
Birds,	59,579
Reptiles,	18,000
Fishes,	40,000
Insects,	369,000
Mollusks,	1,575,000
Other Invertebrates,	11,500
Herbarium,	654,000
Fossils,	46,500
Minerals,	29,000
Archæology and Ethnology,	21,500
Total,	2,836,495

SAMUEL G. DIXON,
HENRY A. PILSBRY.

REPORT OF THE DEPARTMENT OF MOLLUSCA.

The rearrangement of the general collection in exhibition cases has been almost completed, table-cases of gastropods having been worked over during the year. Considerable time has been given by Mr. Vanatta to the determination and description of Hawaiian mollusks sent by Mr. D. Thaanum, of Hilo, Hawaii, and to the work of picking out and assorting upwards of 500 trays of shells from material gathered by the Curator last year in the Florida Keys. Large quantities of leaves and forest débris, gathered by Mr. C. B. Moore, have also been picked over, and much valuable material, especially of very small mollusks, obtained.

Mr. Y. Hirase has continued to send Japanese and Formosan material; his latest sendings contain Korean mollusks, which hitherto have been almost unknown. About 100 new species have been described from this source during the year.

Other valuable accessions are a series of marine shells from the Great Barrier Reef, Australia, including cotypes of 19 new species, from Charles Hedley. A collection from northeastern Mexico, from A. A. Hinkley. A series of Irish slugs from Dr. R. F. Scharff, and many smaller accessions from numerous donors. A large part of this material has been worked up, and papers published thereon. The time of the special Curator has been largely occupied in the preparation of the Manual of Conchology, in which the families *Oleacinidae* and *Ferussacidae* have been described.

H. A. PILSBRY,
Special Curator, Dept. of Mollusca.

REPORTS OF THE SECTIONS.

THE BIOLOGICAL AND MICROSCOPICAL SECTION.

The membership of the Section has changed but little during the year. Nine regular and several informal meetings have been held. On March 30, the fiftieth anniversary of the founding of the Biological and Microscopical Section was observed by a banquet held in the Section Room, at which were present regular and former members and the officers of the Academy. The Director, Dr. J. Cheston Morris, presided, and addresses were made by Dr. Samuel G. Dixon, Dr. George A. Piersol, Dr. Arthur E. Brown, Mr. Witmer Stone, Dr. Henry Skinner, Dr. James Tyson, Dr. Henry A. Pilsbry, Mr. F. J. Keeley and Mr. C. S. Boyer.